# USGS Topographic Science Websites and Viewers. Communicating Scientific Data.

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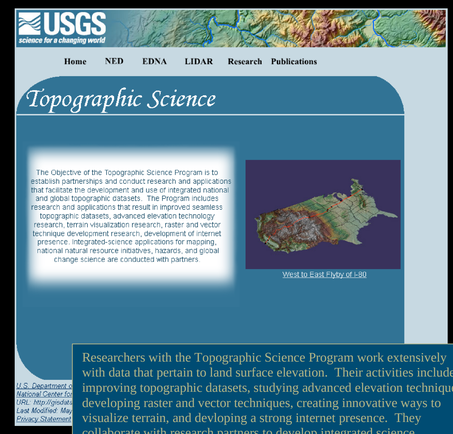
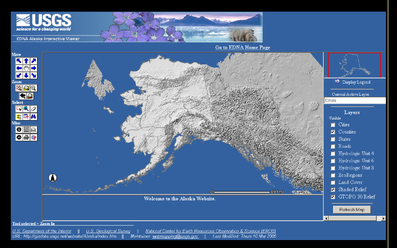
The Topographic Science program at the U.S. Geological Survey National Center for Earth Resources Observation and Science (EROS) has created a series of components that includes interactive map viewers, mapservices, webservices, and Web-enabled tools that leverage integrated seamless national topographic databases to communicate scientific research and applications. This poster illustrates Elevation Derivatives for National Applications (EDNA) Web-enabled applications for the U.S. that display seamless topographic databases, and elevation and terrain visualization research. Advanced interactive capabilities include watershed delineation, querying watershed characteristics, estimates of mean annual streamflow, and stream profile. These Web-enabled EDNA tools are suited for a variety of applications such as flood analysis investigations, pollution studies, and hydroelectric power potential assessment. This hydrologic methodology was not feasible nationally prior to the development of EDNA.

http://gisdata.usgs.net/topographic



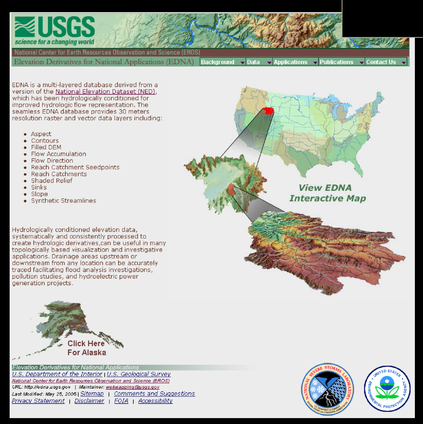

Researchers with the Topographic Science Program work extensively with data that pertain to land surface elevation. Their activities include improving topographic datasets, studying advanced elevation techniques, developing raster and vector techniques, creating innovative ways to visualize terrain, and devloping a strong internet presence. They collaborate with research partners to develop integrated science applications for use in mapping and natural resource initiatives, and in studying hazards and global change.

EDNA Alaska Interactive Viewer
http://gisdata.usgs.net/website/Alaska/viewer.htm

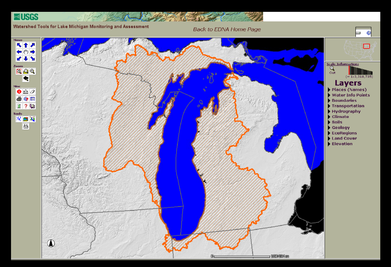



EDNA Interactive Viewer
http://gisdata.usgs.net/website/EDNA/viewer.php


http://edna.usgs.gov

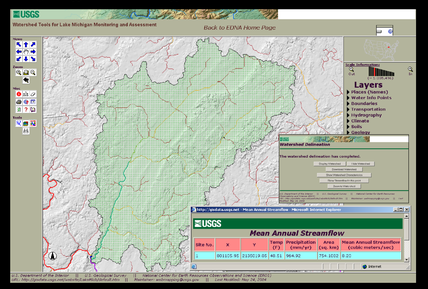



Lake Michigan Interactive Viewer
http://gisdata.usgs.net/website/LakeMich/



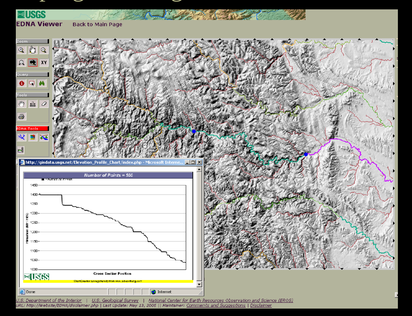

EDNA Website and Interactive Map Viewers

(1) Watershed Delineation Tool and
(2) Mean Annual Streamflow
http://gisdata.usgs.net/website/LakeMich




## Web-Enabled EDNA Tools

(3) Stream Profile Tool
http://gisdata.usgs.net/website/EDNA




**EDNA advanced interactive capabilities**

(1) The Watershed Delineation Tool generates a watershed polygon for any point selected in the conterminous U.S.
(2) The Mean Annual Streamflow computation uses regression equations from "Regional Regression Models of Annual Streamflow for the United States" by Vogel, Wilson, & Daly 1999, using data obtained from "The Climate Source." This tool will calculate the mean annual streamflow for any point in the watershed.
(3) The Stream Profile Tool will generate a profile of the gradient between two points.
(4) The Query Flow Accumulated Layers tool uses data obtained from "The Climate Source." This tool will query a variety of layers for any point in the conterminous U.S. The results of the query describe the characteristics of the entire watershed that drains into the point selected.

(4) Query Watershed Characteristics
http://gisdata.usgs.net/website/EDNA